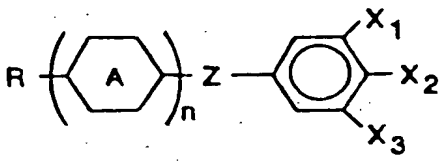
ABSTRACT OF THE DISCLOSURE

A liquid crystal composite material for use in a liquid crystal layer of a liquid crystal display device having a pair of substrates with the liquid crystal layer interposed therebetween, and an electrode structure for generating an electric field having a component predominantly in parallel with one of said pair of substrates. The liquid crystal composite material includes a liquid chemical compound represented by a general chemical formula (I)



---- (I)

In the formula (I), X_1, X_2 and X_3 are selected from a group consisting of fluoro group, cyano group, trifluoromethyl group, trifluoromethoxyl group, nitro group and hydrogen atom and not all three X_1, X_2 and X_3 being a hydrogen group. Further, R is selected from a group consisting of alkyl group and alkoxyl group having the carbon number 1 to 10 which can be substituted, and ring A is selected from a group consisting of cyclohexane ring, benzene ring, dioxane ring, pyrimidine ring, and [2, 2, 2]-bicyclohexane ring. Additionally, Z is selected from a group consisting of single bonding, ester bonding, ether bonding, methylene, and ethylene, while n is 1 or 2.